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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,349	07/11/2003	Paul Garcia	00227D/RPM	6694
1933	7590	12/23/2003	EXAMINER	
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 767 THIRD AVENUE 25TH FLOOR NEW YORK, NY 10017-2023			CHIESA, RICHARD L	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

### Office Action Summary

Application No.

10/618,349

Applicant(s)

GARCIA, PAUL

Examiner

Richard L. Chiesa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings filed on July 11, 2003 have been accepted by the examiner as formal drawings.

### *Claim Rejections - 35 USC § 102/103*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cramer et al. Cramer et al (note Figure 3) disclose an air-water mixing process with a first flow section 9, second flow section 10 having a larger cross-sectional area than the first section, air introduction ports 14, and a conduit 7 having a length greater than its largest diameter for passing the mixed air and water streams as claimed

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(35 USC 102b). It would appear that Cramer et al may not explicitly state that the air is dissolved in the water substantially to its saturation point or that the conduit is at least one foot long. However, these expedients are apparently inherent in the Cramer et al process because Cramer et al do state that total oxygen dispersion in the water is achieved (note col. 1, lines 9-45) and the process is utilized in large bodies of water requiring at least two men to move the assembly (note col. 5, lines 23-46) for the purpose of ensuring low cost manufacture, efficiency, and reliability. Consequently, it would have been readily obvious to one having ordinary skill in the art (35 USC 103) to employ saturation of air into the water and a conduit length of at least one foot in the Cramer et al air-liquid mixing process in order to promote efficient operation as suggested by Cramer et al.

5. Claims 1-12 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Cramer et al in view of Semprini et al. Cramer et al, as described above in paragraph 4, disclose an air-water mixing process substantially as claimed. Cramer et al may not explicitly disclose air dissolution up to saturation or a conduit at least one foot in length. In any case, Semprini et al (note Figure 2) teach the well-known uses of gas saturation into the water stream and a one foot long conduit in a gas-water mixing process (note col. 2, line 40 to col. 3, line 19) for the purpose of ensuring maximum oxygenation of the water (note col. 1, lines 10-42). It therefore would have been obvious to one of ordinary skill in the art to employ gas saturation and a foot long conduit in the Cramer et al air-water mixing process in order to facilitate total oxygenation of the water as taught by Semprini et al.

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***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. These references have been cited as art of interest to show other gas-liquid mixing processes.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard L. Chiesa whose telephone number is (571) 272-1154.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine R. Copenheaver, can be reached at (571) 272-1156.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is (571) 272-0987.

Facsimile correspondence must be transmitted through (703) 872-9306.

Richard L. Chiesa  
December 12, 2003

*Richard L. Chiesa*

**RICHARD L. CHIESA  
PRIMARY EXAMINER  
ART UNIT 1724**

*Dec. 12, 2003*